

REMARKS

Status of the Claims

Claims 1-45 are currently pending in the present application. Claims 19-22 and 25-45 have been withdrawn from consideration. The remaining claims, claims 1-18, 23 and 24 have been rejected. Specifically, claims 1-8, 10, 23 and 24 were rejected as purportedly anticipated by U.S. Pat. No. 2,970,180 (issued to Urry) (“’180 patent”), claims 11-16 and 18 were rejected as purportedly being unpatentable over the ‘180 patent in view of U.S. Pat. No. 6,586,907 (issued to Mori et al.) (“’907 patent”), claim 9 was rejected as purportedly being unpatentable over the ‘180 patent in view of U.S. Pat. No. 4,585,715 (issued to Marple) (“’715 patent”), and claim 17 was rejected as purportedly being unpatentable over the ‘180 patent in view of the ‘715 patent in further view of the ‘907 patent. Applicant respectfully requests reconsideration of the rejections based upon the following comments.

Rejections under § 102(a)

As noted above independent claims 1 and 23 were rejected as purportedly anticipated under 35 U.S.C. § 102(a) by the ‘180 patent. In order to anticipate a claim, the reference must teach each and every one of the claim limitations. Applicant respectfully submits that the ‘180 patent does not teach each and every one of the claimed limitations in independent claims 1 and 23. Specifically, the ‘180 patent does not disclose or suggest a pre-formed pellet with an inner electrode embedded within an outer electrode.

Claim 1 includes, among other things, “at least one pre-formed pellet” wherein the pre-formed pellet includes “...an inner electrode encapsulated by a separator and *embedded* within the material of the outer electrode portion.” (emphasis added). Similarly, claim 23 includes, among other things, “at least one pre-formed pellet” wherein “...the pellet being formed by

embedding the anode into a material used to form the cathode portion.” (emphasis added). Thus, both independent claims require a pre-formed pellet.

The Office Action states that the ‘180 patent discloses a battery cell which contains a pre-formed pellet. *See, e.g.*, OA page 2. Applicant respectfully disagrees. In the ‘180 patent, there is no teaching of a pre-formed pellet.

As used in the present application, a “pre-formed pellet” contains, among other things, an inner electrode portion (usually an anode) and an outer electrode portion (usually a cathode). The two portions are formed into a pellet, **prior** to the insertion of the pellet into the battery housing.

There is nothing in the ‘180 patent that discloses, teaches or suggests a “pre-formed pellet.” Indeed, nothing in the portion cited in the Office Action (col. 3, lines 50-69) discloses this claimed limitation.

Since the ‘180 patent does not disclose a pre-formed pellet, the ‘180 patent cannot be said to anticipate independent claims 1 and 23. Similarly, such a configuration is not suggested by the ‘180 patent. Therefore, the Applicant submits that claims 1 and 23 are patentable over the ‘180 patent. Additionally, the Applicant submits that since the independent claims 1 and 23 are patentable, the remaining dependent claims are patentable as well.

Alternatively, the Applicant submits that the ‘180 patent does not disclose the “embedded” limitation of claims 1 and 23. Claim 1 includes, among other things, the following limitation “...an inner electrode encapsulated by a separator and **embedded** within the material of the outer electrode portion.” (emphasis added). Similarly, claim 23 includes, among other things, “...the pellet being formed by **embedding** the anode into a material used to form the cathode portion.” (emphasis added). Thus, both independent claims require an electrode (in the case of

claim 23, an anode) embedded in another electrode.

The Office Action states that the '180 patent discloses a battery cell which contains an inner electrode embedded in an outer electrode. *See, e.g.*, OA page 2. Applicant respectfully disagrees. In the '180 patent, the inner electrode (20) (anode) is not embedded in outer electrode (12) (cathode). Rather the inner electrode (2) is merely disposed adjacent the outer electrode (12). This is not "embedded." As shown in the Figures of the present application, "embedded" requires the inner electrode to be almost substantially surrounded by the other electrode. *See, e.g.*, FIGS. 2A-2C and 3. This is contrasted with the prior art as identified in FIG. 1 wherein the inner electrode is merely disposed adjacent the outer electrode (similar to the '180 patent).

Applicants' definition of "embedded" is consistent with the dictionary definition of the term "embed." For example, Merriam-Webster (available online at <http://m-w.com>) defines "embed" as:

- 1 a: to enclose closely in or as if in a matrix <fossils *embedded* in stone> b: to make something an integral part of <the prejudices *embedded* in our language> c: to prepare (a microscopy specimen) for sectioning by infiltrating with and enclosing in a supporting substance
- 2: to surround closely <a sweet pulp *embeds* the plum seed>.

As can be seen from the definition of "embed," in order to "embed" the inner electrode within the outer electrode, the inner electrode must be almost substantially surrounded by the other electrode. The '180 patent does not disclose this.

Embedding the inner electrode in the outer electrode has benefits over the conventional arrangement which includes the inner electrode being merely adjacent the outer electrode. For example, embedding the inner electrodes increases the surface area for the interaction between the outer electrode and the inner electrode. *See also* ¶ [0010] of the application. In the devices of the '180 patent, only the outermost surface of the inner electrode (20) will be able to interact

with the outer electrode. In comparison, a device according to the present invention will have a much higher surface area available for interaction. *See, e.g.*, FIGS. 2A-2C and 3. This increased surface area allows the battery cell to deliver more runtime at higher drain rates. *See* ¶ [0038].

Since the '180 patent does not disclose an inner electrode embedded within an outer electrode (in addition to the remarks above relative to the "pre-formed pellet limitation"), the '180 patent cannot be said to anticipate independent claims 1 and 23. Similarly, such a configuration is not suggested by the '180 patent. Therefore, the Applicant submits that claims 1 and 23 are patentable over the '180 patent. Additionally, the Applicant submits that since the independent claims 1 and 23 are patentable, the remaining dependent claims are patentable as well.

Rejections under § 103(a)

As noted above, the other remaining independent claim, claim 11, was rejected as purportedly being unpatentable over the '180 patent in view of the '907 patent. In addition to the above remarks concerning the '180 patent failure to disclose the "embedded" limitation (which also appears in claim 11) and the "pre-formed pellet limitation, the Applicant submits these additional comments on the remaining § 103 rejections. Specifically, with respect to the '907 patent, the Applicant respectfully traverses that it teaches "pre-formed pellets."

As used in the present application, a "pre-formed pellet" contains, among other things, an inner electrode portion (usually an anode) and an outer electrode portion (usually a cathode). The two portions are formed into a pellet, prior to the insertion of the pellet into the battery housing. Applicant respectfully traverses that the '907 patent discloses this configuration.

The cited portion of the '907 patent explains that the cathode is inserted into the housing and *subsequently* the anode material is inserted into the housing. OA page 5 citing '907 patent

col. 8 lns 53-65. While the cited portion of the reference purports to teach that the cathode material is formed into pellets prior to insertion, there is no teaching or suggestion that the pre-formed pellets include the anode material. See '907 patent col. 8 lns 53-65. Therefore, the Applicant respectfully traverses that the '907 patent discloses a "pre-formed pellet" as used in the claims and specification. Indeed, neither the '907 patent nor the '180 patent disclose this limitation, and the Applicant submits that claim 11, and the claims that depend on it are patentable over the prior art of record.


Conclusion

In view of the above, the Applicant submits the claims in the present application are patentable and respectfully requests a timely notice of allowance.

Respectfully submitted,

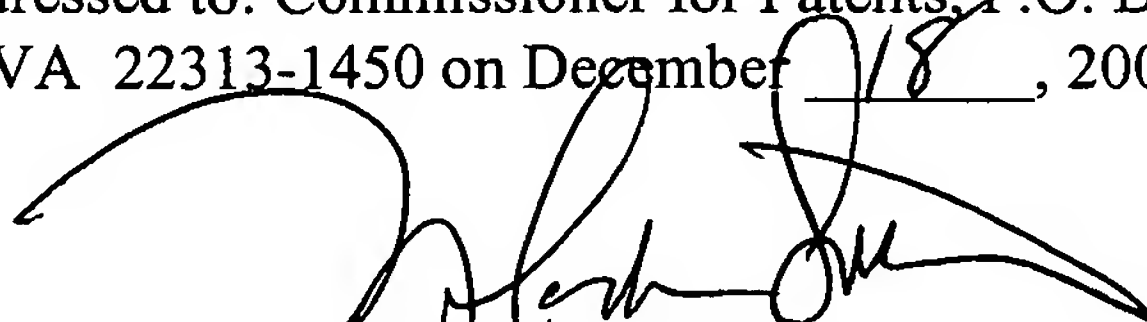
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Dated: December 18, 2007


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